

Luncheon Remarks, John H. Gibbons, Assistant to the President for Science and Technology

US/Japan Earthquake Policy Symposium

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Luncheon Remarks for September 16, 1996

First, I would like to congratulate the organizers of this symposium in both countries for developing a three day schedule that is so clearly packed with important issues. Progress in earthquake disaster reduction will greatly benefit not only both of our nations, but the global community as well. This is an area in which we both have much to offer, and in which collaboration can only make all of us better off.

I would also like to give particular thanks to our colleagues from Japan who have travelled here in significant number to engage in this important dialog. We are especially honored that the Minister of State for the National Land Agency, Mr. Kazumi Suzuki, consented to lead the delegation from Japan.

History shows us that a strong earthquake in either Japan or the United States could easily become a major earthquake disaster. The earthquakes that struck San Francisco in 1906 and Tokyo in 1923, for example, resulted in the complete devastation of large areas of these two cities. Although great strides have been made in recent decades in earthquake resistant design and other measures that can reduce the impact of earthquakes on society, the recent, and substantially smaller earthquakes of 1994 in Northridge, California, and 1995 in Kobe, Japan, serve as forceful reminders of the continuing vulnerability of modern cities to earthquakes.

An enhanced partnership between the US and Japan will improve and develop new means for exchanging knowledge about earthquake mitigation, preparedness, and recovery. Sharing our diverse experiences and approaches will make both of our nations more resilient to earthquakes.

This symposium will touch on land management, insurance, cooperation with local governments, and other issues that play a critical role in achieving greater resilience to the effects of earthquakes. By cooperatively addressing high priority areas of research in earthquake science, engineering, and social science and public policy, we can better assure the safety of communities today and in the years ahead.

Clearly, we face a set of regional and global challenges which transcend national borders, agency missions, scientific disciplines, and political boundaries. The nature of the problem forces us to think and work in new ways. Last year, the Federal Emergency Management Agency (FEMA) took the first step in this direction when it published a National Mitigation Strategy for the Nation and we introduced the National Science and Technology Council report "*Strategy for National Earthquake Loss Reduction*" which provides a national policy framework for a new earthquake loss reduction program. Implementation of this policy should result in better coordination of Federal research and development and emergency planning.

and more effective strategies for saving lives and property and limiting social disruptions from earthquakes.

As you know, support of science and technology is an important priority to the President and Vice President. They enjoy science for its own sake of intellectual curiosity, but also believe that research is critical to our future economy and environment. This Administration has proposed increases in S&T every year since coming to office, including FY 1997, and we will continue to advocate for science and technology funding as long as Bill Clinton is President.

However, there are tough choices to make if we are to succeed in both balancing the Federal budget and protecting critical investments such as R&D. This will be a continuing challenge for Congress and the Administration. In sharp contrast to the deficit deepening eighties with increasing budgets, Federal agencies now tend to consider themselves fortunate to have close to level funding for their programs.

Critical to the success of any plan to support research and technology is the role of universities in supporting research and technology. America's system of research universities is a priceless national treasure. It produces not only the most innovative fundamental research but also the most talented scientists and engineers in the world by emphasizing rigorous merit review of research linked with strong graduate institution programs in a setting of innovation, inquiry, and entrepreneurship. As Federal budget priorities are set, and as tough choices are made to reach a balanced budget, our commitment to the federal government's partnership with our nation's research colleges and universities must be protected.

Now let me turn more directly to the topic of this Symposium.

As part of our overall S&T package, this Administration is strongly committed to reducing losses from natural disasters by supporting programs in observing, documenting, understanding, assessing and predicting the potential effects of natural hazards and their consequences.

In the United States, earthquakes pose a significant threat in at least 39 of our 50 states; they are not limited to the West Coast. A major quake can have an enormous local impact as well as adversely affect the nation's economy due to destruction of lifelines (such as pipelines, power lines) and the transportation network (as we remember all too well from the impact of the Kobe disaster on all of Japan).

In December, 1994, early on in his Administration, President Clinton recognized the importance of reducing losses from earthquakes when he signed Executive Order 12941, which directed Federal agencies to determine the earthquake risks to existing federally-owned and leased buildings and to estimate (within four years) the cost of mitigating such risks.

Meanwhile, scientific and technical advances have sprung from Federal funding for

earthquake-related research. These have included:

- first Real-time rapid observation, analysis, assessment, and notification of earthquakes and their impacts. The first development of an urban seismic hazard alerting and rapid response system is underway in the greater Los Angeles area. The sharing of space-based assets and modern telecommunications capabilities now enable much more cost-effective measures to be undertaken on an international scale.
- second A much better understanding of how the ground shakes during earthquakes. This information is being used by utilities in earthquake vulnerable regions of the U.S. to safeguard critical transportation, power, water and communication systems. Also, this information has played a vital role in the development of construction codes to protect American lives and infrastructure.
- third Improved dam safety. For example, in 1971, the near-failure of a dam during a magnitude 6.7 earthquake forced 80,000 people to evacuate their residences. In 1994, the replacement dam survived an almost identical earthquake with little damage.
- fourth Earthquake early warning. Development of ground- and space-based technologies which continuously monitor changes in the earth's crust will hopefully provide earlier warning of impending earthquakes.
- fifth Protection of human health. Development of indicators for rapid assessment of the health impacts of earthquakes and related health needs may be used to determine the most appropriate medical requirements during the critical first few hours after the event. And research is enabling the development of more effective rescue, medical training, and public health programs; and, similarly, an improved emergency communications system to ensure effective coordination of medical and health needs at the local, State and Federal levels.

The new Earthquake Hazard Loss Reduction Program of our government, led by FEMA, is designed to focus very limited research and development dollars on the most effective means to help save lives and property. This program consists of amalgamated services and programs of about 16 agencies brought together into a coherent whole for the first time.

- o Federal funds will be spent on the most effective projects for mitigation against loss from earthquakes as well as for very promising areas of basic research.
- o New technologies, processes, and products such as probabilistic hazard maps using GIS methodologies will be put into the hands of those who can utilize the information most effectively, including State and local government and the private sector.

- o A "one stop shop" will be established for access to Federal research activities and results, and new technologies concerning earthquake hazards.

Greater Federal inter-agency research budget and program integration is being achieved through the President's National Science and Technology Council's Subcommittee on Natural Disaster Reduction and its working group on the international dimensions of reducing losses from natural hazards.

As to the future, reducing losses from natural disasters, including earthquakes, will depend critically on how well earth scientists, engineers and hazards specialists achieve:

- o advances in fundamental knowledge of geophysical processes; in science-based loss-estimation and process models; dynamic modeling of structures themselves; and in new construction methods
- o achieve new, rapid assessment and response capabilities to minimize damage to electrical utilities and other critical lifelines, and to provide effective use of emergency medical personnel and other disaster response groups
- o achieve improved zoning, construction codes, and other anticipatory means to minimize loss of life and property

International cooperation can help all of us meet these challenges more efficiently.

The Government of Japan has shown both commitment and foresight in actions such as the passage of the Basic Law for the Promotion of Science and Technology.

The Government of Japan has also shown tremendous leadership on the subject of this symposium, reflected again last year in the passage of the Law Concerning Special Measures for Earthquake Disaster Prevention. One high priority initiative that our nations have launched as a reflection of this Law is the Earthquake Disaster Mitigation Partnership. The success of this partnership will benefit the global community and will further strengthen our bilateral ties. Another promising initiative under the Common Agenda is the Pan Pacific Disaster Watch Network which has potential for addressing common regional concerns about the potential damage from natural hazards.

Finally, while we have great mutual self-interest in working closely together on this front, together we have a much greater opportunity to engage and assist developing and industrializing countries in other earthquake vulnerable regions. For example, we can work with such countries to enable early analysis and assessment, identify the most hazardous areas, establish building codes, and create rapid response capabilities.

I very much look forward to the results of your discussions. Although we have a long and positive history of cooperation in this area, your attention to more powerful opportunities for working together can put us on a higher plane. The Earthquake Disaster Mitigation Partnership is an important step in that direction. Your discussions will, I hope, provide the basis for an improved roadmap to a world more resilient to earthquake disasters. We cannot stop continental drift and the earthquakes it generates, but we can make our communities safer from its effects.